



THE OHIO STATE UNIVERSITY



Collaboration Employing Experiential Learning to Teach Sustainable and Resilient Business Practices

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FOCUS ON PROJECT-BASED LEARNING

- Provides experience working collaboratively in teams – recruiters' #1 request.
- Builds soft skills.
- Solving authentic problems crafted by sponsors builds confidence.
- Allows for failure in a safe environment.
- Lays groundwork for transition from school to employment.

CONTEXT

- Eight-year collaboration between Owens Corning and Fisher College of Business Course on Energy & Sustainability.
 - Fall semester – lectures by executives
 - Spring semester – mentored projects
- Projects focus on strategic issues.
- Students self-select teams and projects.
- Deliverables: written report and presentation.
- Results often plow new ground.

LEVERAGING WORLD-CLASS CAPABILITIES ACROSS A GLOBAL NETWORK



OWENS CORNING: GLOBAL IN SCALE

2017 Sales: \$6.4 Billion

3 Market-Leading Businesses

19,000+
EMPLOYEES

in 37 COUNTRIES

- World headquarters
- Insulation facilities
- Roofing and Asphalt facilities
- Composites facilities
- Science and Technology centers

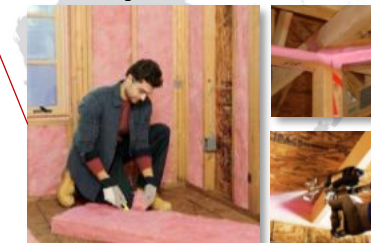
This map shows wholly-owned facilities and it does not include sales offices, warehouses, and joint venture facilities. Last updated August 15, 2016.



Roofing



Composites



Insulation



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THE BUSINESS CASE FOR OWENS CORNING

- Tap into insights of key stakeholders (millennials) on issues important to Owens Corning.
- Advance a project pipeline when resources are constrained.
- Support recruiting initiatives.
- Stretch and develop Owens Corning employees.
- Strengthen internal and external image (and reality) as a responsible company.

EXPANDING OUR IMPACT THROUGH SUSTAINABILITY IS A CORE VALUE

Journey to NetPositive

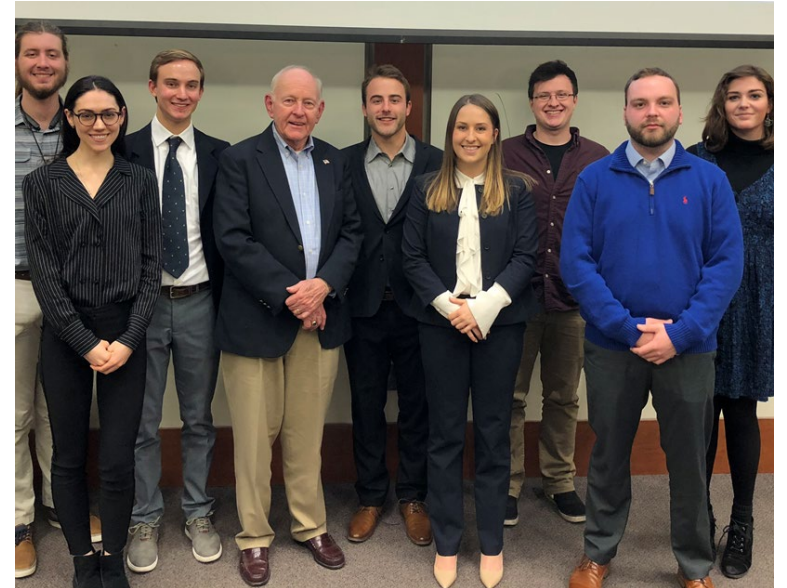


- **Reducing our footprint** by delivering energy-efficient and durable material solutions at scale, supporting local communities for safe work environments

- **Expanding our handprint around the globe**, offering solutions for some of the world's most pressing issues

PRIOR PROJECTS

- Examples
 - Autonomous trucking; sustainability and recruiting; best practices for the disposition of post-consumer insulation; building a self-sustaining facility, utilizing Mount Vernon, Ohio; and exploring the intersection of sustainability and marketing
- Deep dive into one project
 - Building a Self-Sustaining Plant, Utilizing Mount Vernon as a Guide
 - Why?
 - Provides a review of the social and environmental potential metric indicators
 - Engagement directly with facility EHS Leader
 - Short-term and long-term approach
 - What were the results and how used?
 - Continue to utilize the report as a “what can we do next” and additionally a model of other sites



TYPICAL PROJECT CYCLE

- Week 1 – students review project specifications and select projects and teams.
- Week 2- contact project mentors and “get organized”.
- Weeks 3 & 4 – develop project management plans and team contracts; begin project work.
- Weeks 5-8 – project work and submit progress report; get feedback from mentors.
- Weeks 9-12 – Complete project work.
- Weeks 13 & 14 – Final presentations and reports

RECIPE FOR PROJECT SELECTION AND EXECUTION AT OWENS CORNING

- Company assigns a lead who is responsible for success of the project.
- Confirm goal for the project is achievable
- Communication about expectations
- Transparency to students
- Clear timelines

WHY PROJECT TEAMS SUCCEED

1. Objectives are clearly defined and get to the “real” problem.
2. Team members’ skills are well-aligned with assigned responsibilities.
3. All team members know what is expected of them and when.
4. The project is managed by objectives and standards.
5. Time schedules and budgets have contingencies built in (plan for Murphy’s Law).

WHY PROJECT TEAMS SUCCEED, CONTINUED

6. The project team errs on the side of overcommunication.
7. The project teams believes the project is important, objectives and scope are reasonable, and schedules and budgets are achievable.
8. Required approvals are obtained in writing when changes are made to objectives, scope, schedules, budgets, and key/named project staff.
9. Systematic approach to project management and control is employed .

PROJECT-BASED LEARNING AT OHIO STATE

- Typically course-focused (academic credit)
 - Fixed start and end points
 - Students must get a grade
- Students are seeking project experience outside the classroom.
 - Resume building
 - Curriculum may not include a project course
- Other options are on the table

OTHER OPTIONS (NO COURSE CREDIT)

- INNOVATE-0-thon
- Net Impact (student initiative)
- SIVL (Sustainability Innovation Virtual Lab)
 - Connects students to organizations with a project need and vice versa.
 - Student expertise can be tailored to the project.
 - Agreement/terms between organization and student(s).
 - Organization provides supervision

BUILDING THE FOUNDATION

- 2-day workshop to distill best practices.
- Sponsor: Sustainable and Resilient Economy Discover Theme -71 participants.

Academic Institutions

Chatham University
Ohio State University
Penn State University
Western Michigan University

Other non-commercial organizations

AASHE

City of Columbus
Ohio Environmental Council
Sustainable Ohio
Lexner Medical Center

Corporations

Engie
FMC Corporation
Honda
Huntington Bank
Kohler
Lifestyle Communities
Owens Corning
Riipen
Scotts-MiracleGro

Wolpert & Associates

WORKSHOP – NEXT STEPS

- Spring 2019 study to document details of project-based learning Ohio State campus wide.
- Potential publication of a guidebook in cooperation with AASHE.
- Benchmark other emerging initiatives at Arizona State University, University of British Columbia and University of Massachusetts.
- Submit articles for publication in the Journal of Sustainability Education and HBR.org, an online publication of the Harvard Business Review.

THE PROOF IS IN THE PUDDING

- Dr. Drobny: I graduated in the 2018 class with a Bachelors Degree from the EEDS program. I found your courses to be the most helpful of all the courses in the EEDS curriculum and I wanted to thank you for that. Your course really helped me pave my way to a career in sustainability. I'm currently working as an Energy Analyst for an energy management and consulting firm in NYC. My company installs sub meters and tracks energy usage for buildings such as the World Trade Center, Rockefeller Center, the Chrysler Building, Washington D.C. Transportation Authority and many more. Thank you again for your courses and the time you spend to educate people in the sustainability field. It's more important than ever! Giovanna Busco, 2018 Sustainability Graduate.
- The fresh perspectives which students bring to generating solutions to the problems we toss at them add significant value. Often they identify issues we overlooked because we are so close to the problem – an example of not seeing the forest for the trees. Jesús Hernández-Torres, Director R&D – Global Sizing COE, Composites Solutions

CONCLUDING THOUGHTS

- Be open to the potential engagement
- Every group of students provides a fresh perspective and drives creativity within the organization
- Benefits exist for both the student and company
- Boosts the student's amount of practical expertise and experience
- Company is provided a talent pipeline
- Open communication and collaboration with students, company, and professor is key to success!

CONTACT INFORMATION

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